

Head injury

Quality standard

Published: 23 October 2014

Last updated: 15 October 2025

www.nice.org.uk/guidance/qs74

Contents

Quality statements	4
Quality statement 1: CT head scans.....	5
Quality statement.....	5
Rationale	5
Quality measures.....	5
What the quality statement means for different audiences.....	6
Source guidance.....	6
Definitions of terms used in this quality statement	6
Quality statement 2: CT head scans for people taking anticoagulants	9
Quality statement 3: CT cervical spine scans	10
Quality statement.....	10
Rationale	10
Quality measures.....	10
What the quality statement means for different audiences.....	11
Source guidance.....	11
Definitions of terms used in this quality statement	11
Quality statement 4: Provisional radiology reports.....	14
Quality statement.....	14
Rationale	14
Quality measures.....	14
What the quality statement means for different audiences.....	15
Source guidance.....	15
Quality statement 5: Access to neuroscience units.....	16
Quality statement.....	16
Rationale	16
Quality measures.....	16
What the quality statement means for different audiences.....	17

Source guidance.....	17
Definitions of terms used in this quality statement	18
Quality statement 6: Inpatient rehabilitation for people with traumatic brain injury	19
Quality statement 7: Community rehabilitation services for people with traumatic brain injury	20
Quality statement.....	20
Rationale	20
Quality measures.....	20
What the quality statement means for different audiences.....	21
Source guidance.....	21
Definitions of terms used in this quality statement	22
Equality and diversity considerations	22
Quality statement 8 (placeholder): Post-acute phase rehabilitation for children and young people	23
Update information	24
About this quality standard	25
Diversity, equality and language.....	25

This standard is based on NG232 and NG252.

This standard should be read in conjunction with QS15, QS86, QS71 and QS166.

Quality statements

Statement 1 People attending an emergency department with a head injury have a CT head scan within 1 hour of a risk factor for brain injury being identified.

Statement 2 This statement has been removed. For more details, see [update information](#).

Statement 3 People attending an emergency department with a head injury have a CT cervical spine scan within 1 hour of a risk factor for spinal injury being identified.

Statement 4 People attending an emergency department with a head injury have a provisional written radiology report within 1 hour if a CT head or cervical spine scan is performed.

Statement 5 People with a head injury who have a Glasgow Coma Scale (GCS) score of 8 or less at any time have access to specialist treatment from a neuroscience unit.

Statement 6 This statement has been removed. For more details, see [update information](#).

Statement 7 Community-based neurorehabilitation services provide a range of interventions to help support people with continuing cognitive, communicative, emotional, behavioural or physical difficulties as a result of a traumatic brain injury.

Statement 8 (placeholder) This statement has been removed. For more details, see [update information](#).

Quality statement 1: CT head scans

Quality statement

People attending an emergency department with a head injury have a CT head scan within 1 hour of a risk factor for brain injury being identified.

Rationale

Head injuries can be fatal or cause permanent disability if damage to the brain is not identified and treated quickly. A CT scan within 1 hour will allow rapid treatment and improve outcomes for people with head injuries that have damaged the brain.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Process

Proportion of emergency department attendances of people with a head injury for which a CT head scan is performed within 1 hour of a risk factor for brain injury being identified.

Numerator – the number in the denominator having a CT head scan within 1 hour of a risk factor for brain injury being identified.

Denominator – the number of emergency department attendances of people with a head injury and a risk factor for brain injury indicating the need for a CT head scan.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records. The [National Major Trauma Registry \(NMTR\)](#) collects data for a subset of the population in the measure. NMTR collects data on CT scans and injuries.

What the quality statement means for different audiences

Service providers (emergency departments, hospitals, major trauma centres, trauma units and specialist neurological centres) ensure that a CT head scan can be performed within 1 hour of a risk factor for brain injury being identified in people with a head injury.

Healthcare professionals ensure that CT head scans are performed within 1 hour of a risk factor for brain injury being identified in people with a head injury.

Commissioners ensure that service providers can perform CT head scans within 1 hour of a risk factor for brain injury being identified in people with a head injury. This may be achieved in a number of ways, including the use of 1-hour targets in acute contracts or enhanced monitoring and audit procedures.

People with a head injury who have any sign showing that the injury might have damaged their brain have a CT scan of their head within 1 hour of the sign showing.

Source guidance

Head injury: assessment and early management. NICE guideline NG232 (2023), recommendations 1.5.8, 1.5.10 and 1.5.11

Definitions of terms used in this quality statement

Risk factors for brain injury

For people aged 16 and over with a head injury, any of the following risk factors indicates the need for a CT head scan within 1 hour of the risk factor being identified:

- a GCS score of 12 or less on initial assessment in the emergency department
- a GCS score of less than 15 at 2 hours after the injury on assessment in the emergency department
- suspected open or depressed skull fracture

- any sign of basal skull fracture (haemotympanum, 'panda' eyes, cerebrospinal fluid leakage from the ear or nose, Battle's sign)
- post-traumatic seizure
- focal neurological deficit (neurological problems restricted to a particular part of the body or a particular activity)
- more than 1 episode of vomiting.

[[NICE's guideline on head injury](#), recommendation 1.5.8]

For children and young people aged under 16 with a head injury, any of the following risk factors indicates the need for a CT head scan within 1 hour of the risk factor being identified:

- suspicion of non-accidental injury
- post-traumatic seizure
- on initial emergency department assessment, a GCS score of less than 14 or, for babies under 1 year, a GCS score (paediatric) of less than 15
- at 2 hours after the injury, a GCS score of less than 15
- suspected open or depressed skull fracture, or tense fontanelle
- any sign of basal skull fracture (haemotympanum, 'panda' eyes, cerebrospinal fluid leakage from the ear or nose, Battle's sign)
- focal neurological deficit (neurological problems restricted to a particular part of the body or a particular activity)
- for babies under 1 year, a bruise, swelling or laceration of more than 5 cm on the head.

[[NICE's guideline on head injury](#), recommendation 1.5.10]

In addition, children and young people aged under 16 with a head injury and more than 1 of the following risk factors should have a CT head scan within 1 hour of the risk factors being identified:

- loss of consciousness lasting more than 5 minutes (witnessed)

- abnormal drowsiness
- 3 or more discrete episodes of vomiting
- dangerous mechanism of injury (high-speed road traffic accident as a pedestrian, cyclist or vehicle occupant, fall from a height of more than 3 m, high-speed injury from a projectile or other object)
- amnesia (anterograde or retrograde) lasting more than 5 minutes (it will not be possible to assess amnesia in children who are preverbal and is unlikely to be possible in children under 5)
- any current bleeding or clotting disorder.

[[NICE's guideline on head injury](#), recommendation 1.5.11]

Quality statement 2: CT head scans for people taking anticoagulants

This statement has been removed. See [update information](#) for details.

Quality statement 3: CT cervical spine scans

Quality statement

People attending an emergency department with a head injury have a CT cervical spine scan within 1 hour of a risk factor for spinal injury being identified.

Rationale

Head injuries can be fatal or cause disability if there is damage to the cervical spine that is not identified and treated quickly. A CT cervical spine scan within 1 hour will allow rapid treatment and improve outcomes for people with head injuries that have damaged the cervical spine.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Process

Proportion of emergency department attendances of people with a head injury for which a CT cervical spine scan is performed within 1 hour of a risk factor for spinal injury being identified.

Numerator – the number in the denominator having a CT cervical spine scan within 1 hour of a risk factor for spinal injury being identified.

Denominator – the number of emergency department attendances of people with a head injury and a risk factor for spinal injury indicating the need for a cervical spine scan.

Data source: Data can be collected from information recorded locally by healthcare

professionals and provider organisations, for example from patient records.

What the quality statement means for different audiences

Service providers (emergency departments, hospitals, major trauma centres, trauma units and specialist neurological centres) ensure that a CT cervical spine scan can be performed within 1 hour of a risk factor for spinal injury being identified in people with a head injury.

Healthcare professionals ensure that CT cervical spine scans are performed within 1 hour of a risk factor for spinal injury being identified in people with a head injury.

Commissioners ensure that service providers can perform CT cervical spine scans within 1 hour of a risk factor for spinal injury being identified in people with a head injury. This may be achieved in a number of ways, including the use of 1-hour targets in acute contracts or enhanced monitoring and audit procedures.

People with a head injury who have any sign showing that the injury might have damaged their neck have a CT scan of their neck within 1 hour of the sign showing.

Source guidance

Head injury: assessment and early management. NICE guideline NG232 (2023), recommendations 1.6.2 to 1.6.4

Definitions of terms used in this quality statement

Risk factors for spinal injury

For people aged 16 and over with a head injury (including people with delayed presentation), any of the following high-risk factors indicates the need for a CT cervical spine scan within 1 hour of the risk factor being identified:

- the Glasgow Coma Scale (GCS) score is 12 or less on initial assessment
- the person has been intubated

- a definitive diagnosis of a cervical spine injury is urgently needed (for example, if cervical spine manipulation is needed during surgery or anaesthesia)
- there has been blunt polytrauma involving the head and chest, abdomen or pelvis in someone who is alert and stable
- there is clinical suspicion of a cervical spine injury and any of these factors:
 - age 65 or over
 - a dangerous mechanism of injury (that is, a fall from a height of more than 1 m or 5 stairs, an axial load to the head such as from diving, a high-speed motor vehicle collision, a rollover motor accident, ejection from a motor vehicle, an accident involving motorised recreational vehicles or a bicycle collision)
 - focal peripheral neurological deficit
 - paraesthesia (pins and needles, or a prickling sensation, tingling or itching) in the upper or lower limbs.

[[NICE's guideline on head injury](#), recommendation 1.6.2]

For people aged 16 and over with a head injury, and neck pain or tenderness but no high-risk indications for a CT cervical spine scan, any of the following risk factors indicates the need for a CT cervical spine scan within 1 hour of the risk factor being identified:

- it is not thought to be safe to assess the range of movement in the neck
- safe assessment of range of neck movement shows that the person cannot actively rotate their neck 45 degrees to the left and right
- the person has a condition predisposing them to a higher risk of injury to the cervical spine (for example, axial spondyloarthritis).

[[NICE's guideline on head injury](#), recommendation 1.6.3]

For children and young people aged under 16 with a head injury (including those with a delayed presentation), a CT cervical spine scan should be performed only if any of the following risk factors apply:

- the GCS score is 12 or less on initial assessment

- the person has been intubated
- there are focal peripheral neurological signs
- there is paraesthesia (pins and needles, or a prickling sensation, tingling or itching) in the upper or lower limbs
- a definitive diagnosis of cervical spine injury is needed urgently (for example, if manipulation of the cervical spine is needed during surgery or anaesthesia)
- the person is having other body areas scanned for head injury or multisystem trauma, and there is clinical suspicion of a cervical spine injury
- there is strong clinical suspicion of injury despite normal X-rays
- plain X-rays are technically difficult or inadequate
- plain X-rays identify a significant bony injury.

[[NICE's guideline on head injury](#), recommendation 1.6.4].

Quality statement 4: Provisional radiology reports

Quality statement

People attending an emergency department with a head injury have a provisional written radiology report within 1 hour if a CT head or cervical spine scan is performed.

Rationale

Head injuries can be fatal or cause permanent disability if damage to the brain is not identified and treated quickly. Having the provisional results of a CT scan available within an hour will allow rapid treatment and improve outcomes for people with head injuries that have damaged the brain.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Process

Proportion of emergency department attendances for head injury for which a provisional written radiology report is available within 1 hour of any CT head or cervical spine scan.

Numerator – the number in the denominator with a provisional written radiology report available within 1 hour.

Denominator – the number of emergency department attendances for head injury having a CT head or cervical spine scan.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

What the quality statement means for different audiences

Service providers (emergency departments, hospitals, major trauma centres, trauma units and specialist neurological centres) ensure that provisional written radiology reports are available within 1 hour of CT head or cervical spine scans for head injury.

Healthcare professionals ensure that a provisional written radiology report is available within 1 hour of the CT head or cervical spine scans for head injury.

Commissioners ensure that service providers can deliver a provisional written radiology report within 1 hour of the scan. This may be achieved in a number of ways, including the use of 1-hour targets in acute contracts or enhanced monitoring and audit procedures.

People with a head injury who have a CT scan have a written report of the scan results available within 1 hour.

Source guidance

Head injury: assessment and early management. NICE guideline NG232 (2023), recommendations 1.5.14 and 1.6.7

Quality statement 5: Access to neuroscience units

Quality statement

People with a head injury who have a Glasgow Coma Scale (GCS) score of 8 or less at any time have access to specialist treatment from a neuroscience unit.

Rationale

A GCS score of 8 or less indicates a severe traumatic brain injury. People with GCS scores of 8 or less will benefit from specialised clinical management provided by a neuroscience unit.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of locally agreed transfer protocols between the ambulance service, emergency department, district general hospital and designated neuroscience unit.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from transfer protocols.

Process

Proportion of emergency department attendances of people with a head injury and a GCS score of 8 or less at any time for which there is a documented record of ongoing liaison with or transfer to a neuroscience unit.

Numerator – the number in the denominator for which there is a documented record of ongoing liaison with or transfer to a neuroscience unit.

Denominator – the number of emergency department attendances of people with a head injury and GCS score of 8 or less at any time.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

What the quality statement means for different audiences

Service providers (emergency departments, ambulance services, district general hospitals, major trauma centres, trauma units and specialist neurological centres) ensure that there are agreed protocols for ongoing liaison about the management of head injury in people with a GCS score of 8 or less, and when to transfer to a neuroscience unit.

Healthcare professionals ensure that people with a head injury and a GCS score of 8 or less have access to specialist treatment through ongoing liaison with or transfer to a neuroscience unit.

Commissioners ensure that appropriate pathways and protocols are in place for specialist treatment of head injury in people with a GCS score of 8 or less through ongoing liaison with and transfer to a neuroscience unit.

People with a head injury who show signs of severe brain injury are cared for with advice from specialists in brain injury, or have their care transferred to a clinic that specialises in treating brain injury.

Source guidance

Head injury: assessment and early management. NICE guideline NG232 (2023), recommendation 1.8.1

Definitions of terms used in this quality statement

Glasgow Coma Scale

In people with a head injury, the GCS is an early assessment of the severity of any associated traumatic brain injury. It is a standardised system used to assess the degree of brain impairment and to identify the seriousness of injury in relation to outcome. The scale has 3 domains: eye opening, verbal and motor responses. These are all evaluated independently in the scale according to a numerical value that indicates the level of consciousness and degree of dysfunction. The scores in each element of the GCS are summed to give the overall GCS score, which ranges from 3 (unresponsive in all domains) to 15 (no deficits in responsiveness):

- mild traumatic brain injury is a GCS score of 13 to 15
- moderate traumatic brain injury is a GCS score of 9 to 12
- severe traumatic brain injury is a GCS score of 8 or less.

[[NICE's guideline on head injury](#), terms used in this guideline]

Neuroscience unit

A neuroscience unit is a specialist centre or a unit that has facilities for neurosurgery and neurointensive care. [[NICE's 2014 full guideline on head injury](#)]

Quality statement 6: Inpatient rehabilitation for people with traumatic brain injury

This statement has been removed. See [update information](#) for details.

Quality statement 7: Community rehabilitation services for people with traumatic brain injury

Quality statement

Community-based neurorehabilitation services provide a range of interventions to help support people with continuing cognitive, communicative, emotional, behavioural or physical difficulties as a result of a traumatic brain injury.

Rationale

Community-based neurorehabilitation services can be important in helping people who have had a traumatic brain injury regain independence and return to their normal daily lives (for example, going back to work or continuing their education).

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of local arrangements to provide community-based neurorehabilitation services supplying a range of interventions to support people with continuing cognitive, communicative, emotional, behavioural or physical difficulties as a result of a traumatic brain injury.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from service protocols.

What the quality statement means for different audiences

Service providers (primary care and community rehabilitation services) ensure that systems are in place to offer community-based neurorehabilitation services providing a range of interventions to people with continuing cognitive, communicative, emotional, behavioural or physical difficulties after a traumatic brain injury.

Healthcare professionals ensure that they offer community-based neurorehabilitation services providing a range of interventions to people with continuing cognitive, communicative, emotional, behavioural or physical difficulties after a traumatic brain injury.

Commissioners ensure that there is sufficient capacity for community-based neurorehabilitation services to provide a range of interventions to help support people with continuing cognitive, communicative, emotional, behavioural or physical difficulties after a traumatic brain injury.

People who have had a head injury that has left them with problems with their memory, concentration or communication, or with emotional or physical difficulties, are offered a programme of rehabilitation after they leave hospital to help them recover their independence and return to their normal daily lives.

Source guidance

- [Rehabilitation for chronic neurological disorders including acquired brain injury. NICE guideline NG252 \(2025\)](#), sections on rehabilitation to maintain, improve or support function; and rehabilitation to support education, work, social and leisure activities, relationships and sex
- [Head injury: assessment and early management. NICE guideline NG232 \(2023\)](#), recommendations 1.10.13 and 1.10.14
- [Brain injury rehabilitation in adults. SIGN guideline 130 \(2013\)](#), sections 4 to 8

Definitions of terms used in this quality statement

Traumatic brain injury

Traumatic brain injury is defined as a traumatically induced structural injury and/or physiological disruption of brain function as a result of an external force that is indicated by new or worsening of at least 1 of the following clinical signs, immediately after the event:

- any period of loss of or a decreased level of consciousness
- any loss of memory for events immediately before or after the injury
- any alteration in mental state at the time of the injury (such as confusion, disorientation or slowed thinking)
- neurological deficits (such as weakness, loss of balance, change in vision, praxis, paresis or plegia, sensory loss or aphasia) that may or may not be transient
- intracranial lesion.

[[SIGN's guideline on brain injury rehabilitation in adults](#), section 1.3.2]

Range of interventions

Interventions to provide rehabilitation after a traumatic brain injury can include neuropsychological therapy, cognitive behavioural therapy, occupational therapy, physiotherapy, speech and language therapy, family interventions and vocational interventions. [[SIGN's guideline on brain injury rehabilitation in adults](#)]

Equality and diversity considerations

Provision should be made to ensure access to services for people who find it difficult to travel long distances because of disability, financial barriers or other factors.

Quality statement 8 (placeholder): Post-acute phase rehabilitation for children and young people

This statement has been removed. See [update information](#) for details.

Update information

October 2025: Changes have been made to align this quality standard with [NICE's guideline on rehabilitation for chronic neurological disorders](#). Statement 6 has been removed because the source guidance, SIGN guideline 110 on early management of patients with a head injury, was withdrawn. Statement 7 source guidance has been changed to include NICE's guideline on rehabilitation for chronic neurological disorders. The target population for this statement has been extended to include children and young people aged under 16. Statement 8 has been removed because it is no longer needed. This placeholder statement was originally added because no source guidance existed for post-acute phase rehabilitation for children and young people. NICE's guideline on rehabilitation for chronic neurological disorders now covers this population, and statement 7 has been amended accordingly.

The [previous version of the quality standard for head injury](#) is available as a PDF.

May 2023: Changes have been made to align this quality standard with the updated [NICE guideline on head injury](#). Statement 2 on CT head scans for people taking anticoagulants has been removed because the recommendations in this area have changed. Links, terminology, definitions, data sources and source guidance sections have also been updated throughout.

About this quality standard

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. NICE quality standards draw on existing NICE or NICE-accredited guidance that provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement.

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, this may not always be appropriate in practice. Taking account of safety, shared decision making, choice and professional judgement, desired levels of achievement should be defined locally.

Information about [how NICE quality standards are developed](#) is available from the NICE website.

See our [webpage on quality standards advisory committees](#) for details about our standing committees. Information about the topic experts invited to join the standing members is available from the [webpage for this quality standard](#).

NICE guidance and quality standards apply in England and Wales. Decisions on how they apply in Scotland and Northern Ireland are made by the Scottish government and Northern Ireland Executive. NICE quality standards may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

Diversity, equality and language

Equality issues were considered during development and [equality assessments for this quality standard](#) are available. Any specific issues identified during development of the quality statements are highlighted in each statement.

Commissioners and providers should aim to achieve the quality standard in their local context, in light of their duties to have due regard to the need to eliminate unlawful

discrimination, advance equality of opportunity and foster good relations. Nothing in this quality standard should be interpreted in a way that would be inconsistent with compliance with those duties.

ISBN: 978-1-4731-7256-2

Endorsing organisation

This quality standard has been endorsed by NHS England, as required by the Health and Social Care Act (2012)

Supporting organisations

Many organisations share NICE's commitment to quality improvement using evidence-based guidance. The following supporting organisations have recognised the benefit of the quality standard in improving care for patients, carers, service users and members of the public. They have agreed to work with NICE to ensure that those commissioning or providing services are made aware of and encouraged to use the quality standard.

- [Brain And Spinal Injury Centre](#)
- [British Paediatric Neurology Association](#)
- [Royal College of Emergency Medicine](#)
- [Headway - the brain injury association](#)
- [Intensive Care Society](#)
- [Royal College of General Practitioners \(RCGP\)](#)
- [Royal College of Nursing \(RCN\)](#)
- [Royal College of Paediatrics and Child Health](#)
- [Royal College of Physicians \(RCP\)](#)
- [Society and College of Radiographers \(SOR\)](#)